IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS EASTERN DIVISION EASTERN DIVISION

	U4 U 3222
HOWARD B. GARBER	
Plaintiff, v.	Civil Action No.: District Judge:
CHICAGO MERCANTILE EXCHANGE, CHICAGO BOARD OF TRADE, CHICAGO BOARD OPTIONS EXCHANGE, and ONE CHICAGO, LLC.) MACTISTRATE TUDOR BUBBICK (
Defendants.	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, Howard B. Garber, by his attorneys, as its Complaint against Defendants

Chicago Mercantile Exchange, Chicago Board of Trade, Chicago Board Options Exchange, and

One Chicago, LLC (collectively "Defendants"), states the following:

The Parties, Jurisdiction, and Venue

- 1. Howard B. Garber ("Garber") is an individual residing at 2305 N. Commonwealth Avenue, Chicago, Illinois.
- 2. Upon information and belief, the Chicago Mercantile Exchange ("CME") is a Delaware corporation having its principal place of business at 30 S. Wacker Drive, Chicago, Illinois.
- 3. Upon information and belief, the Chicago Board of Trade ("CBOT") is a Delaware corporation having its principal place of business at 141 West Jackson Blvd, Chicago, Illinois.



- 4. Upon information and belief, the Chicago Board Options Exchange ("CBOE") is a Delaware corporation having its principal place of business at 400 South LaSalle Street, Chicago, Illinois.
- Upon information and belief, One Chicago, LLC. ("One Chicago") is a Delaware corporation having its principal place of business at 141 West Jackson Blvd, Suite 2208A, Chicago, Illinois.
- 6. This Court has jurisdiction over each of the Defendants pursuant to 28 U.S.C. §1332 and 28 U.S.C. §1338.
- 7. Venue is proper in this judicial district for each of the Defendants pursuant to 28 U.S.C. §§1391 (b) and (c).

Factual Background

- 8. Garber was born, raised, and currently resides in the Chicago area.
- 9. From 1972-1976 Garber occasionally traded soybeans at the CBOT while working full-time in the retail fur business.
- 10. In 1976, Garber purchased a seat at the CME in the International Monetary Market where he traded gold and numerous currencies on a full-time basis on the floor at the CME.
- 11. In the early 1980s, Garber began trading soybean futures, treasury bonds, and stock options on the floors of the CBOT and CBOE.
- 12. Starting around 1984 and throughout the remainder of the 1980s and the 1990s,
 Garber, a computer enthusiast, stopped trading on the floor of the exchanges. Rather he used
 computers to receive last trade price quotes from the floor of the exchanges and used these price

quotes to telephone traders on the floor of the exchanges to complete his transactions. Also, throughout the 1990s, Garber ran his own investment advising business.

- 13. During the three decades as a trader at the Defendants' exchanges, Garber gained an intimate knowledge of the futures and options industry. While trading at the CBOT, CBOE, and CME, he realized that there was a need for a system which would increase the opportunities for a trader to buy and sell in many of the commodities he traded. That is, there was a need to create liquidity in many markets.
- 14. One problem that Garber experienced at the Defendants' exchanges was the limited number of traders trading a certain commodity. This increased the spread between the purchase price and the sell price and created greater volatility, both combining to increase the overall costs of trading.
- 15. Combining his passion for computers and for trading, Garber invented a unique system and method for electronically trading commodities which would overcome these problems. On June 3, 1997, Garber filed a patent application, which on October 5, 1999 issued as United States Patent No. 5,963,923 ("the '923 Patent") entitled *System and Method for Trading Having a Principal Market Maker*. Garber is the sole owner of the '923 Patent. The '923 Patent is attached as Exhibit A.
- 16. The '923 Patent is directed toward a system and method of trading commodities using a computerized or electronic "market maker".
- 17. A market maker can create and maintain a market (i.e. creates a buy and sell price) in a particular commodity by being willing to buy a particular commodity at a specified price and sell the particular commodity at a specified price. This creates liquidity in that commodity by allowing any trader to buy or sell that particular commodity at any time. For

example, a market maker sets a bid (offer to buy) price and offer (offer to sell) price and has an obligation to buy and sell at that price. Thus, a trader can always buy from the market maker or sell to the market maker a particular commodity. Using a market maker creates greater liquidity and less volatility ultimately lowering the overall cost of trading.

- 18. Because the market maker must buy or sell after it establishes the bid/offer price, it is advantageous for the market maker to have the ability to automatically transfer this risk to a different market maker. For example, if the market maker is continually buying a certain commodity future because all of the traders want to sell, the price of the commodity future may continuously decline -- thus the market maker will receive lower-priced commodity futures that he is obligated to buy from the traders. To protect itself against this price drop, i.e. hedge, the market maker can make a second trade buying an option contract -- the right to sell the commodity future at a certain price, i.e. a higher price -- thus offsetting the previous purchase of the lower priced commodity future. The market maker can make this second trade through a second market maker. This almost instantaneous transfer of risk via computer had never been accomplished before Garber's invention.
- 19. The '923 Patent results in the electronic market maker increasing trading volume, reducing the volatility and the size of the spread between the bid and offer while minimizing risk to the market maker, all combining to create a more efficient trading environment.
 - 20. The Defendants own and operate commodity future and option exchanges.
- 21. As an active trader in the options and futures industry for over 20 years, Garber approached the Defendants to implement his invention of an electronic market maker in order to solve the problems he saw with the futures and options trading exchanges.

22. On numerous occasions, the Defendants met with Garber and requested detailed information about his invention. However, they later told him they were not interested.

Subsequently, the Defendants implemented and are currently using his invention as claimed in the '923 Patent.

Facts Relevant to the Chicago CBOT's Patent Infringement

- 23. On December 17, 1996, Garber met with Pat Arbor, then CBOT chairman, to discuss Garber's proposal for an electronic market making system ("PMM"). Garber sent a follow-up letter summarizing the December 17th meeting to which he received no reply.
- 24. On October 10, 1997, Garber telephoned Richard Sandor, a vice president at the CBOT, to discuss his PMM invention. On the advice of Sandor, Garber telephoned and left a message for Harold Lavender, then governor at the CBOT, to discuss his PMM invention.

 Garber received no response.
- 25. On October 16, 1997, Garber met with Henry Mlynarski, then CEO of the Chicago Board Brokerage at the CBOT, to discuss Garber's pending patent application and proposal for implementing the PMM invention at the CBOT. Mlynarski told Garber that he would read the proposal and get back to him. On November 4, 1997, Mlynarski rejected Garber's proposal.
- 26. On December 17, 1997, Garber spoke with John Harding, then vice president of product development and research at the CBOT, and they discussed Garber's PMM invention. Harding told Garber that the CBOT was not interested.
- 27. Upon information and belief, the CBOT is now using a PMM system as claimed in the '923 Patent in at least the following products and/or services: the 2, 5, and 10 year US Treasury Note Futures, the 30-year US Treasury Bonds, the 5 and 10 year Interest Rate Swap

Futures, the 30-day Federal Fund Futures, the Dow Jones Industrial Average Futures and various E-mini products.

Facts Relevant to the CME's Patent Infringement

- 28. In July 1997, Garber met with Yra Harris, Bill Shepard, and Jim Oliff, all board governors at the CME, to discuss his PMM invention.
- 29. On separate occasions during August 1997, Garber met with then CME Chairman, Jack Sander and CME board member, Jim Oliff to discuss Garber's PMM invention and pending patent application. Garber gave a copy of his white paper to Sander which summarized his invention.
- 30. On September 17, 1997, Garber spoke with Fred Arditti, an economist at the CME, regarding his PMM invention. During the meeting, Arditti said neither he nor anyone else at the CME would have time for Garber's PMM invention.
- 31. On September 24, 1997, Garber and his attorney met with the CME's Bill Shepard and his attorney to discuss Garber's invention and its suitability to the CME's newly introduced product, the E-mini. Garber's PMM invention was again rejected.
- 32. On February 24, 1998, Garber met with the CME's Agriculture Oversight Committee ("AOC") to discuss AOC's desire to use Garber's PMM invention in its dairy contracts. Present at this meeting were Bob Prossi, the Chairman of the committee, and committee members Tim Brennan, Joel Greenberg, Joe Gressel, Bill Shepard, and Laurie Altinger. They rejected Garber's PMM invention.
- 33. On February 25, 1998, Garber received a telephone call from Scott Gordon, then CME Chairman to discuss his PMM invention. Gordon informed Garber that he was

reorganizing the CME's committees to give them more flexibility and that Garber should contact him in mid April of 1998.

- 34. Accordingly, on May 6, 1998, Garber mailed a copy of his PMM invention to Scott Gordon and on May 24, 1998, Garber spoke with Gordon regarding his PMM invention. He told Garber to write a letter summarizing their conservation so that he could discuss Garber's PMM invention at a high level meeting.
- 35. Garber wrote the summarizing letter to Gordon and in response thereto, Rick Killcollum, then CEO of the CME, called Garber to inform him that no one at the CME was interested in his PMM invention.
- 36. Upon information and belief, the CME is now using a PMM system as claimed in the '923 Patent in at least the following products and/or services: Eurodollar futures and options contracts, and various E-mini products.

Facts Relevant to the CBOE's Patent Infringement

- 37. On October 9, 1996, Garber met with Bill Floersch, then Vice Chairman of the CBOE, and Joe Levin, head of new products at the CBOE, to discuss Garber's PMM invention and its use at the CBOE. Levin told Garber that he would call after the appropriate CBOE personnel discussed Garber's PMM invention. Levin ultimately rejected Garber's PMM invention.
- 38. On November 12, 1996, Garber met with the CBOE's New Products committee, including Angelo Carvello, then a trader at the CBOE, where Garber presented his PMM invention. Again, the CBOE, by silence, rejected Garber's PMM invention.

39. Upon information and belief, the CBOE is now using a PMM system as claimed in the '923 Patent in at least the following product and/or service: Volatility Index (VIX)

Futures.

Facts Relevant to One Chicago's Patent Infringement

- 40. One Chicago is owned equally by each of the three other defendants, CBOT, CME, and CBOE.
- 41. Upon information and belief, One Chicago is using a PMM system as claimed in the '923 Patent in its single stock futures contracts trading exchange.

COUNT I- PATENT INFRINGEMENT

- 42. Garber repeats and realleges, and incorporates by reference all the previous allegations of paragraphs 1-41 of this Complaint as specifically set forth herein.
- 43. The Defendants use of a computerized market maker in futures and commodities trading is an infringement of the '923 Patent in violation of 35 U.S.C. §271 (a), (b) and/or (c).
- 44. Upon information and belief, Defendants were aware of the existence of the '923 Patent prior to making, using, and selling a computerized market maker, but nonetheless have infringed the '923 Patent without a reasonable basis for believing in good faith that they had a right to infringe the '923 Patent. Thus, the Defendants' infringement of the '923 Patent has been willful.

WHEREFORE, Garber demands judgment as follows:

- a. An order adjudging and decreeing that the making, using, and selling by the
 Defendants have infringed U.S. Patent No. 5,963,923;
- b. An order adjudging and decreeing that the Defendants have willfully infringed
 U.S. Patent No. 5,963,923;

- c. A permanent injunction be granted against further infringement of U.S Patent No.
 5,963,923 by the Defendants, their officers, employees, agents, parents,
 subsidiaries, and all others acting in concert or privity with them;
- d. An award of damages adequate to compensate for the infringement of U.S. Patent
 No. 5,963,923, in accordance with 35 U.S.C. §284;
- e. An award of increased damages for Defendants' willful infringement of U.S. Patent No. 5,963,923, in accordance with 35 U.S.C. §284;
- f. An award of prejudgment interest in accordance with 35 U.S.C. §284;
- g. An award of costs in accordance with 35 U.S.C. §284;
- h. An award of attorneys' fees in accordance with 35 U.S.C. §285 because this case is exceptional;

i. Any further relief this Court deems just and appropriate.

Dated: May 6, 2004

By:

Lee F. Grossman

Jeffrey M. Drake

GROSSMAN & FLIGHT, LLC

20 North Wacker Drive

Respectfully submitted.

Suite 4220

Chicago, Illinois 60606

Attorneys for Plaintiff, Howard B. Garber

JURY DEMAND

Plaintiff Howard B. Garber hereby demands a trial by jury of any issue triable of right by a jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

Respectfully submitted,

Dated: <u>Play 6,200</u>4

By:

Lee F. Grossman

Jeffrey M. Drake

GROSSMAN & FLIGHT, LLC

20 North Wacker Drive

Suite 4220

Chicago, Illinois 60606

Attorneys for Plaintiff,

Howard B. Garber

CERTIFICATE OF SERVICE

I hereby certify that a copy of COMPLAINT FOR PATENT INFRINGEMENT, has been served on May 7, 2004 to:

Via Hand Delivery:

Craig S. Donohue Chief Executive Officer CME Board of Directors 20 South Wacker Drive Chicago, Illinois 60606

Bernard W. Dan President & CEO Chicago Board of Trade 141 W. Jackson Boulevard Chicago, Illinois 60604

Joanne Heather Moffic-Silver General Counsel Chicago Board Options Exchange 400 South LaSalle Street Chicago, Illinois 60605

William J. Rainer Chairman and Chief Executive Officer One Chicago, LLC 141 W. Jackson Boulevard, Suite 2208-A Chicago, Illinois 60604

Attorney for Plaintiff.

United States Patent [19]

Garber

Patent Number: [11]

5,963,923

Date of Patent: [45]

Oct. 5, 1999

SYSTEM AND METHOD FOR TRADING HAVING A PRINCIPAL MARKET MAKER

[76] Inventor: Howard B. Garber, 2305 N.

Commonwealth Ave., Chicago, Ill.

60614

[21] Appl. No.: 08/868,200

[22] Filed: Jun. 3, 1997

Related U.S. Application Data

[60]	Provisional	application	N٥.	60/030,584,	Nov.	12,	1996.

[51]	Int. Cl.6	G06F 15/30
[52]	IIS CL	705/37- 705/35- 235/370-

[58]

235/380

235/380

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COVERED INTEREST

RATE ARBITRAGE

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Primary Examiner-Allen R. MacDonald Assistant Examiner-Jaedish Patel Attorney, Agent, or Firm-Brinks Hofer Gilson & Lione

ABSTRACT

A system and method is provided for linking a Rolling Spot Currency contract with a Principle Market Maker program. In one aspect of the invention, the system includes an electronic brokerage and trading network having at least one computer coupled to receive and transmit bids and offers for international currency trading; a display terminal and input; and a principal market maker computer coupled to the electronic brokerage and trading network wherein the principal market maker computer is operative to receive and transmit the bids and offers and execute international currency trades by maintaining a market for such currencies. In another aspect of the invention, the method includes the steps of receiving and transmitting bids and offers for publicly traded currencies; storing the received bids and offers in a memory; identifying and executing the matching bids and offers; and identifying unmatched bids and offers and providing a complementary trade to maintain a market for such currencies.

28 Claims, 9 Drawing Sheets

ROLLING LIMITED 10 PUBLIC ORDERS **PMM** SPOT **ACCESS** COMPLITER CURRENCY NETWORK COMPUTER CLEARING FACILITY FORWARD FORWARD OUTRIGHT SPREAD ODD VALUE ODD DAYES CURRENC PROJECT GLOSE REUTERIS EBS SWAPS 2,000 18 20 ELECTRONIC BROKERAGE AND TRADING BANKS, DEALERS AND INSTITUTIONS

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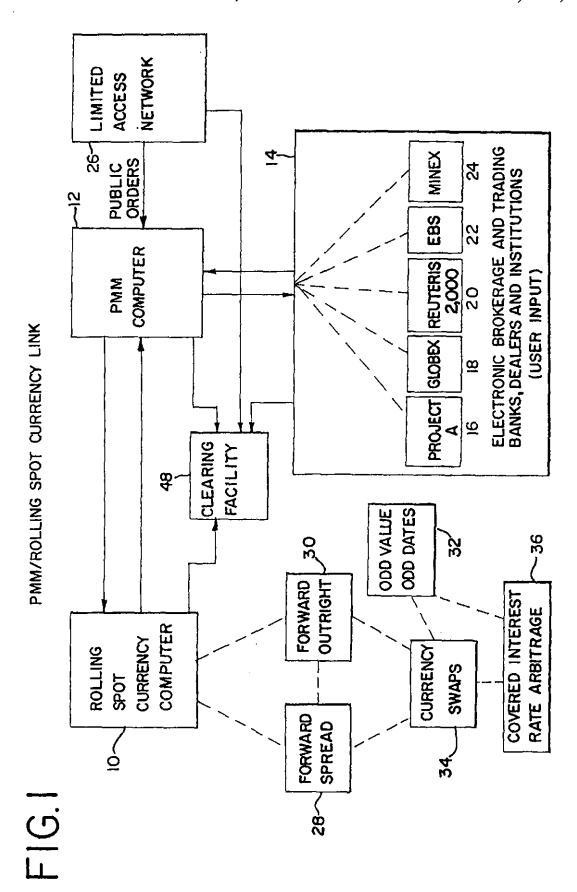
PMM/ROLLING SPOT CURRENCY LINK

U.S. Patent

Oct. 5, 1999

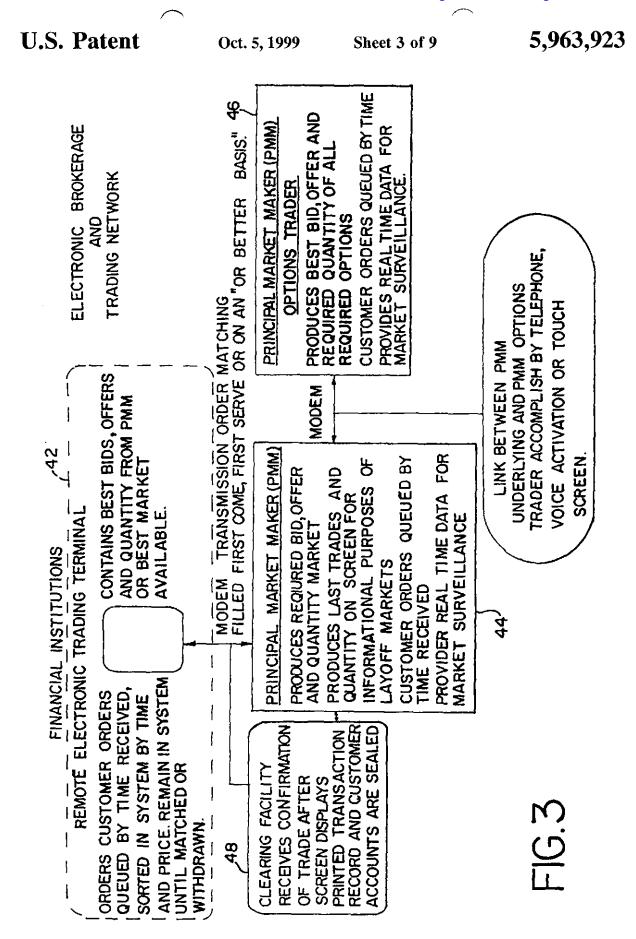
Sheet 1 of 9

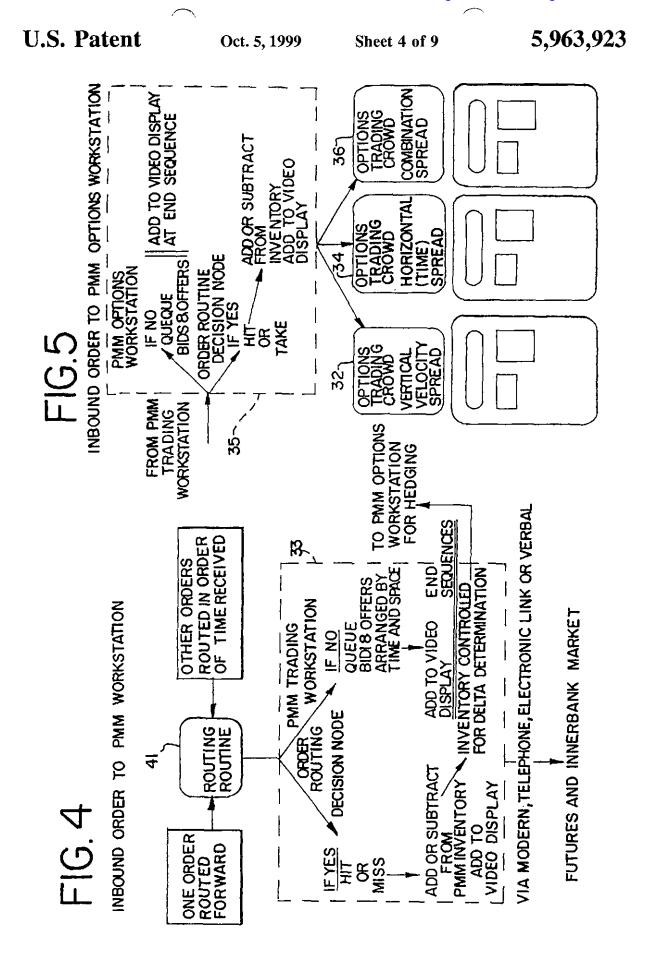
5,963,923



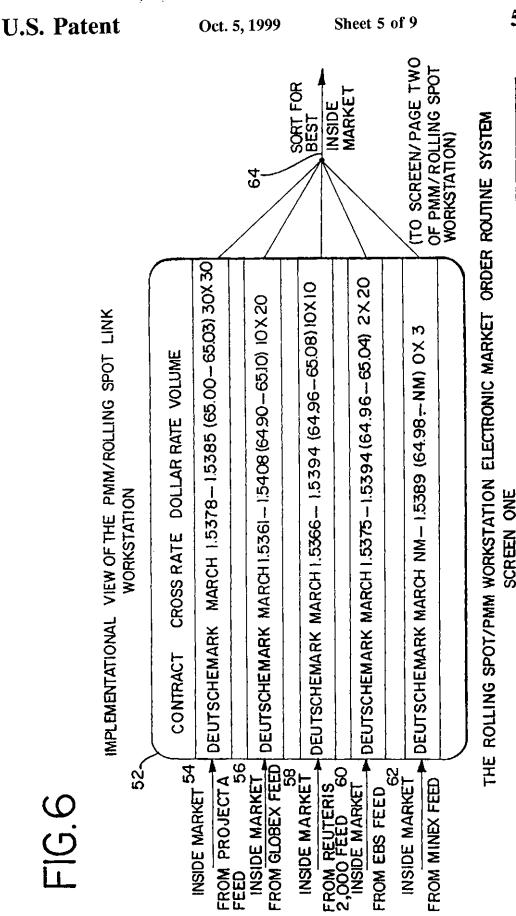
U.S. Patent 5,963,923 Oct. 5, 1999 Sheet 2 of 9 OPTIONS TRADING COMBINATION 36 INCOMING SECONDARY BANK ORDER SPREAD CROWD OPTIONS TRADING FOR OPTION HEDGE (TIME SPREAD) 35 SPOT OPTIONS HORIZONTAL PMM/ ROLLING COMPUTER CROWD **VERTICAL (VOLATILTIY** RISK TRANSFER UNDER THE OPTIONS TRADING 3. PMM/ROLLING SPOT LINK VOICE, HAND SIGNAL, WIRELESS, VOICE ACTIVATION COMPUTER RISK TRANSFER MECHANISMS SPREAD) CROWD TELEPHONE, TOUCH & INCOMING PRIMARY BANK ORDER CURRENCY FUTURES TRADERS SPOT FUTURES 33 PMM/ROLLING COMPUTER BUY/SELL F16.2 PMM/ROLLING 38 FUTURE TRADERS

SPOT





F1G.6



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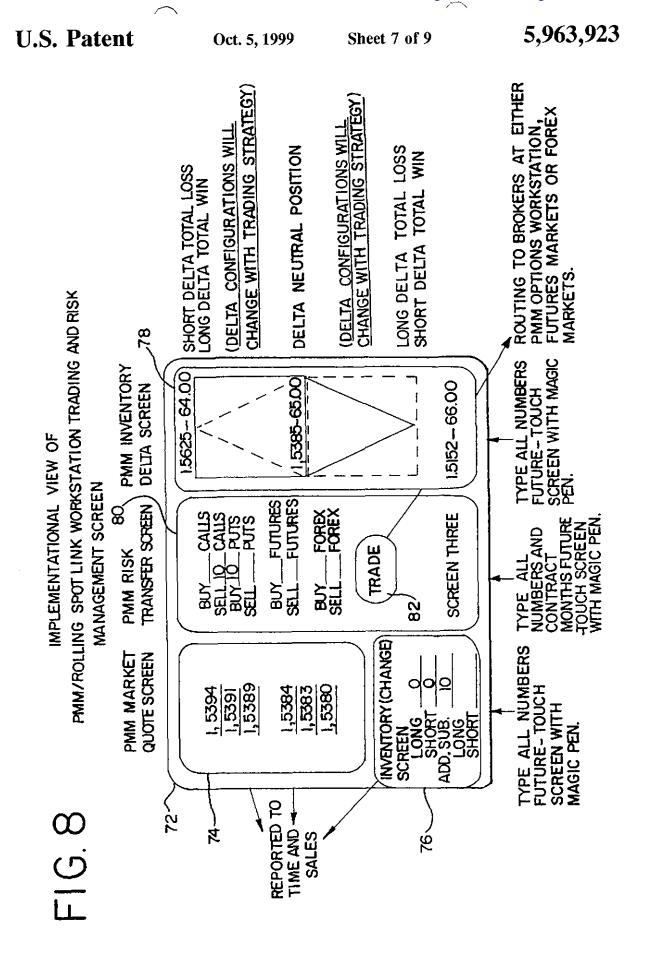
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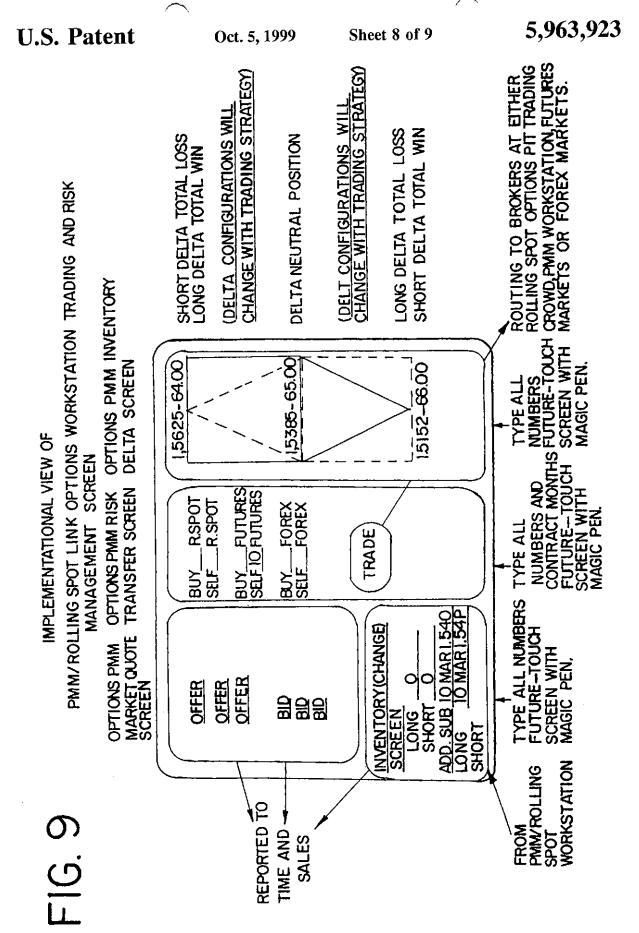
WITH SCREEN. TWO TO ENABLE ONLY ONE SCREEN AND BE USED FOR BACKUP

PURPOSES ONLY

5,963,923 U.S. Patent Oct. 5, 1999 Sheet 6 of 9 REPORTED TO OFFICE OF ORIGIN AND ACCOUNT EXECUTIVE.
ORDER RECEIVED IN OFFICE OF ORIGIN IN TEN SECONDS. LINKED TO PMM/ROLLING SPOT INVENTORY SCREEN. WITH FINGER OR PENCIL, QUANTITY DIVIDED AUTOMATICALLY UNLESS TRADES EXECUTED AUTOMATICALLY EXECUTION PRICE AND TIME REPORTED TO TIME AND SALES BY TOUCHING TRADER ACRONYMS OVERRIDDEN VERBAL CONFIRMS TO PIT TRADING CROWD FUTURE - TOUCH SCREEN TO HAND-HELDS. MANUALLY PMM/ROLLING SPOT LINK WORKSTATION AUTOMATED DEUTSCHEMARK MARCH SELL 1.5358 (65.03) QTY. 30 PRO ,5386 TRADE BT. 10 PMM BT. 10 WLT BT. 10 LCP IMPLEMENTATIONAL VIEW OF BROKERAGE SCREEN HBG, IR, BLY, HIT, LEX, TEV, LOPL, WKO, SCREEN TWO LCP, NBK, JTX, FRC, FIK, GLR, LD ORDER ROUTING SYSTEM ID# TRADING CROWD ACRONYMS: TIME OF ORDER ENTRY MCC, AHF, FGN, WLT LAST TRADE TRADE CROWD ACRONYMS LOGGED ON BY TRADERS PRIOR TO TRADING ထွ် MARKET FROM ELECTRONIC BEST INSIDE

FEEDS





5,963,923 U.S. Patent Oct. 5, 1999 Sheet 9 of 9 REPORTED TO TIME AND SALES. REPORTED TO OFFICE OF ORIGIN AND ACCOUNT EXECUTIVE. ORDER RECEIVED IN OFFICE OF TRADES EXECUTED AUTOMATICALLY EXECUTION PRICE AND TIME BY TOUCHING TRADER ACRONYMS WITH FINGER OR PENCIL QUANTITY DIVIDED AUTOMATICALLY UNLESS MANUALLY OVERRIDDEN. ROLLING SPOT INVENTORY JINKED TO OPTIONS PMM/ ORIGIN IN TEN SECONDS TRADE PRICE AND TIME SCREEN VERBAL CONFIRMS TO PIT TRADING CROWD, FUTURE - TOUCH SCREEN TO HAND-HELDS. PMM/ROLLING SPOT OPTIONS LINK WORKSTATION AUTOMATED DEUTSCHEMARK MARCH 1,54 OPTION SELL 1,25 QTY, 30 GLOB TRADE 1.26 BT, 10 DUP BT, 10 JOE BT, 10 HIGH MPLEMENTATIONAL VIEW OF BROKERAGE SCREEN JOE, HIGH, ACE, TOM, ZAP, WAK, TREE ORDER ROUTING SYSTEM ID# TRADING CROWD ACRONYMS: TIME OF ORDER ENTRY HOG, MMM, SPAD TRADE CROWD ACRONYMS LOGGED ON BY TRADERS PRIOR TRADE LAST TO TRADING. BEST INSIDE MARKET FROM ELECTRONIC

5,963,923

1

SYSTEM AND METHOD FOR TRADING HAVING A PRINCIPAL MARKET MAKER

This application claims the benefit of U.S. Provisional Application No. 60/030,584, filed Nov. 12, 1996.

FIELD OF THE INVENTION

The invention relates to an electronic trade exchange system and in particular to the merger of a specialist system (designated large quantity), two-sided bid/offer market in a traditional pit trading environment.

BACKGROUND OF THE INVENTION

There are many different types of exchanges in existence, such as the New York Stock Exchange (NYSE) and the Chicago Board of Trade (CBOT). Generally these exchanges provide an open market for the purchase and sale of securities and commodities. Principle or designated market makers can be employed at these exchanges to maintain a market in securities and commodities. The market maker maintains a market by being on the opposite side of every

The use of a human market maker in a trading environment is known. For example, the use of a market maker has been employed in connection with trading securities. Rules pertaining to the use of a Principal Market Maker (PMM) in futures markets have also been proposed by the Chicago Mercantile Exchange (CME) to allow the use of a market maker in a commodities environment. However, these rules have not been implemented. The CME's proposed rules for its Principal Market Maker (PMM) are similar to rules written by the Chicago Board of Options Exchange (CBOE), although adapted for exchange traded futures.

The PMM's functions are similar to that of a market 35 making foreign exchange bank and broker specialist. A PMM specialist should continuously maintain a sized twosided bid/offer market for its designated products. This market should be of a designated minimum quantity and maximum spread, i.e., the difference between bid and offer. Also, the PMM should maintain the "public order book" (collection of public customer orders to purchase or sell) with respect to the assigned products. Finally, the PMM should give priority to customer order execution over personal trading.

As compensation for the above functions, the PMM is typically entitled to participatory volume defined as the average daily pit traded volume for the preceding calendar quarter. For example, the PMM may be entitled to 40% of volume at the bid/offer price if volume is between zero and 2,500; and 35% of volume at the bid/offer price if volume is between 2,501 and 5,000. No entitlements are currently offered if volume exceeds 5,000 transactions per day. Additionally, the PMM is entitled to the retention of floor executed brokerage transactions commissions except where 55 principal-agency conflicts of interest apply, or other arrangements have been made.

The foreign exchange spot cash market facilitates the exchange of currency between two parties. The actual currency transfer generally occurs two business days following 60 the transaction date. At the close of business of each trading day, market participants roll or swap their open spot positions forward one business day. This enables the next trading day's position to be maintained in spot terms. Eventually, future spot positions are netted against existing positions.

The CME's Rolling Spot Currency contract parallels the quoted spot or cash market with a few notable exceptions: 2

(1) the exchange makes an automatic daily adjustment for the "roll" via a cash debit/credit; (2) because the trades go through the CME Clearing House, many problems associated with interbank spot transactions are eliminated; and (3) all Rolling Spot Currency contracts currently have a standard size. Thus, the CME's Rolling Spot Currency contracts combine the price convention of the interbank market with all the benefits of the CME and its existing central clearing facility. Traders do not have to pay away bid/ask spreads on charged with the responsibility of making a sized 10 daily spot rolls because the CME's roll process, called the "Daily Adjustment," is performed automatically. The need for a credit-worthiness counterparty check is eliminated because the counter-party is always the CME Clearing House. Overdraft expenses are climinated using Rolling 15 Spot Currency contracts because there is no need to actually make a payment or accept a delivery as in the foreign exchange (forex) markets.

> Unlike regular spot transactions in the foreign exchange markets, Rolling Spot Currency trades do not tie up bank credit lines. Therefore, institutional traders can conserve their firm's credit lines for other uses. Because Rolling Spot Currencies are a centralized exchange traded contract, these contracts allow all traders to obtain the same quotes regardless of their firm's credit rating or size. Quick access to cash flows can also be created by combining the CME's Rolling Spot Currencies with currency forwards to produce forward swap positions. In addition to freeing up credit lines, Rolling Spot Currency positions are not affected by the Bank for International Settlements' Capital Adequacy Requirement Standards.

By circumventing the tasks of funds transfer and multiple ticket writing to facilitate the roll, the CME replicates the one-day roll with a simple line entry and no deliveries. Furthermore, multiple trades transacted in the interbank market with several counterparties require separate ticketing for each buy and sell. The CME's Average Price System (APS) allows multiple Rolling Spot trades transacted throughout the day to be assigned an average price. The APS significantly reduces costly paperwork because the trader has the benefit of averaging all trades into single buy and sell

Previous attempts at providing an active interbank exchange traded currency market have failed. One reason that previous attempts have failed is because futures markets do not presently require nor provide the proper incentives to any trader or entity to deliver the service of a current 24-hour bid/offer and large quantity market. Failure of prior attempts to develop an interbank exchange traded currency has kept the transaction cost (the difference between bid and offer) of market participation in worldwide international currency trade very high because liquidity of the exchange traded futures market is relatively low vis-a-vis the interbank over-the-counter forex market.

Futures exchange traded foreign currency trading has failed to compete with the over-the-counter-forex market. The CME's foreign currency volume has recently declined, while over-the-counter volume increased. In addition, a "second tier" of currency trading banks have recently entered the "top twenty" group of currency traders. This suggests that market growth in foreign currency trading is dynamic, not static, and represents another failure of the current methodology of exchange traded foreign currencies.

Prior attempts have also been made by exchanges to 65 capture market share in the area of currency trading which is established between the spot (current date transaction) and the short duration (1-14 days) of currency market derivative 3

products. Foreign exchange average daily volume may be as high as 893 billion dollars. Two thirds of this figure may also represent forward and swap derivative transactions. These transactions represent an important untapped market for exchange traded currency products.

Another area in which exchange traded currencies have failed to compete is the area called Exchange For Physical (EFP). This area is currently a fast growing, off-exchange trade between Futures Clearing Merchants (FCM), which are analogous to brokerage houses in the securities industry. 10 Because of the failure to provide a market maker with long term growth incentives to position itself in the market 24-hours per day, and to market and make the essential business contacts to promote its service and the exchange's products, exchange traded currencies are losing business to 15 the EFPs. Furthermore, the EFP is another area of over-thecounter, unregulated currency trading which is developing to the detriment of world financial stability.

The greatest failure of the over-the-counter forex currency market is its inability to transfer risk in a timely, cost 20 effective manner. The possibility of failure of one or more large currency market making banks is great because no present arena provides the vital service of efficient, cost effective risk transfer.

Prior attempts at capturing flexibility in establishing new innovative currency contracts and direct marketing contacts with currency trading personnel have failed on the major futures exchanges. This failure to innovate and communicate is also exposing the world to potential currency risk because exchanges cannot provide the necessary products to limit risk. By establishing a mechanism associated with an exchange responsible for making a market at all times and charged with the responsibility of marketing that presence, the futures exchanges will be able to provide a much needed service similar to a bank, but with all the inherent advantages of cost competitiveness and regulatory safety of an exchange.

SUMMARY OF THE INVENTION

The present invention provides a method and system for linking Rolling Spot Currency contracts with a PMM specialist program. The Rolling Spot Currency contracts are futures contracts which in almost all aspects replicate spot currencies in the forex market. The PMM specialist program 45 is designed to replicate an over-the-counter bank trading environment by merging the best aspects of a specialist system—a combined trader and broker, charged with the responsibility of making a sized two-sided, bid/offer

In a first aspect of the present invention, the system includes an electronic brokerage and trading network having at least one computer coupled to receive and transmit bids and offers for international currency trading; a display terminal and input; and a PMM computer coupled to the 55 electronic brokerage and trading network wherein the PMM computer is operative to receive and transmit the bids and offers and execute international currency trades by maintaining a bid and offer market for such currencies.

includes means for receiving a primary currency purchase order indicative of whether a currency is to be bought or sold; means for receiving a secondary currency purchase order indicative of a currency option hedge; a PMM futures computer coupled to the means for receiving the primary 65 currency purchase order and operative to execute primary currency purchase orders and maintain a currency futures

market; a PMM options computer coupled to the means for receiving the secondary currency purchase order and operative to execute secondary currency purchase orders and maintain a currency options bid and offer market; and a bidirectional communications link coupled between the futures and options computers to facilitate intermarket trading to manage risk taken in a position resulting from a trade in either market.

In a third aspect of the present invention, the system includes a communications interface operative to transmit currency bids and offers from at least one financial institution; and a PMM computer coupled to the communications interface and operative to receive the currency bids and offers and execute trades to maintain a market for international currency trades.

In a fourth aspect of the present invention, the system includes an electronic brokerage and trading network having at least one computer, display terminal and input coupled to receive and transmit bids and offers; and a principal market maker computer coupled to the electronic brokerage and trading network to receive and transmit the bids and offers and execute trades by maintaining a constant bid and offer

A fifth aspect of the present invention involves a method of trading currencies including the steps of receiving and transiting bids and offers for publicly traded currencies; storing the received bids and offers in a memory, identifying matching bids and offers; executing the matching bids and offers; identifying unmatched bids and offers; and providing a complementary trade to maintain a market for such currencies.

A sixth aspect of the present invention involves a method of maintaining a market for publicly traded currencies including the steps of receiving a primary currency purchase order, the primary currency purchase order indicative of whether a currency is to be bought or sold; receiving a secondary currency purchase order, the secondary currency purchase order indicative of a currency option hedge; matching and executing the primary currency purchase order to maintain a currency futures market; matching and executing the secondary currency purchase order to maintain a currency options market, and providing intermarket futures and options trading to manage risk taken in a position resulting from a trade in either market.

A seventh aspect of the present invention involves a method of trading currencies including the steps of receiving currency bids and offers from at least one financial institution; storing the currency bids and offers in a memory; market—with a traditional futures pit trading environment. 50 matching the stored bids and offers to maintain a market for the currency traded; and executing the matched trades.

An eighth aspect of the present invention involves a method of trading including the steps of receiving and transmitting bids and offers; storing the received bids and offers in a memory; identifying matching bids and offers; executing the matching bids and offers; identifying unmatched bids and offers; and providing a complementary trade to maintain a market.

Some of the benefits to be expected from the merger of the In a second aspect of the present invention, the system 60 PMM specialist and Rolling Spot Currency contracts include, but are not limited to: (1) increased volume and open interest in both currency futures and currency options and, therefore, a reduction in currency transaction costs; (2) greater ability to utilize modern risk transfer techniques to reduce risk and increase person-o-person servicing and marketing in the foreign exchange market; (3) a more stable financial environment because of exchange dictated clearing 5

considerations and regulations; and (4) the convenience of a 24-hour electronic futures market place for all currency traders and financial institutions worldwide.

The invention itself, together with further objects and attendant advantages, will be understood by reference to the following detailed description, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of one presently preferred embodiment of the PMM /Rolling Spot Currency system of the present invention.

FIG. 2 is a block diagram of a more detailed illustration shown in FIG. 1.

FIG. 3 is a block diagram of the PMM/Rolling Spot Currency Link of the present invention which illustrates trading using the electronic brokerage and trading network shown FIG. 1.

FIG. 4 is a flow chart of the processing that occurs inside the PMM/Rolling Spot Future computer.

FIG. 5 is a flow chart of the processing that occurs inside the PMM/Rolling Spot Option computer.

FIG. 6 is a graphical representation of the PMM/Rolling Spot Link electronic market order routing system of the present invention.

FIG. 7 is a presently preferred embodiment of an Automated Brokerage Screen for use with the PMM/Rolling Spot 30 Link Futures Workstation of the system of the present invention.

FIG. 8 is a presently preferred embodiment of a Trading and Risk Management Screen for use with the PMM/Rolling invention.

FIG. 9 is a presently preferred embodiment of a Trading and Risk Management Screen for use with the PMM/Rolling Spot Link Options Workstation of the system of the present invention.

FIG. 10 is a presently preferred embodiment of an Automated Brokerage Screen for use with the PMM/Rolling Spot Link Options Workstation of the system of the present invention.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

FIG. 1 is a block diagram of one presently preferred embodiment of the PMM/Rolling Spot Currency system of 50 the present invention. Preferably, the system includes PMM computer 12; a computer 10 coupled to the PMM computer 12 for trading rolling spot currency; an electronic brokerage and trading network 14 including a plurality of electronic professional traders such as banks, dealers and institutions; a limited access network 26 primarily for use by nonprofessional traders such as individuals; and a clearing facility 48 coupled to the PMM computer 12, the computer 10, the electronic brokerage and trading network 14 and the 60 limited access network 26 to confirm and settle trades executed by the PMM computer 12. The PMM computer 12 handles the purchase and sale of currencies and is constantly charged with maintaining a currency market, i.e., sized bid/offer market. Preferably, as those skilled in the art would 65 appreciate, computers 10 and 12 should be able to accommodate a large amount of transactions in a timely manner.

The electronic trading systems Project A 16, Globex 18, Reuters 2000 20, Electronic Brokerage System ("EBS") 22, Minex 24 are well known in the art and need not be discussed in further detail herein. These systems are coupled to the PMM computer 12 to receive and transmit bids and offers for international currency trading. The PMM/Rolling Spot Currency system of the present invention facilitates

numerous types of derivative currency trades. Preferably, these trades include forward spread 28, forward outright 30, currency swap 34, odd value and odd date 32, and covered interest rate arbitrage 36.

The ability to transfer risk automatically and instantaneously through electronic and/or verbal communications from the PMM computer 12 to various other individual of the PMM/Rolling Spot Currency link of the system 15 traders, or other entities, is a unique PMM/Rolling Spot Currency system feature. Unlike banks, whose only method of transferring risk is to make markets which, in many instances, contain sufficiently wide spreads (the difference between the bid and the offer) in order to minimize bank risk at customer expense, the PMM/Rolling Spot currency system allows for risk minimization at the same time that it reduces the size of the spread between bid and offer.

FIG. 2 is a block diagram of a more detailed illustration of the PMM/Rolling Spot Currency system shown in FIG. 1. 25 In particular, FIG. 2 illustrates the manner in which a PMM/Rolling Spot Futures computer 33 can transfer risk associated with trades to a PMM/Rolling Spot Options computer 35. This process is called primary risk transfer. Primary risk transfer can be accomplished through the use of communications, preferably electronic communications, between a PMM/Rolling Spot Futures computer 33 and a PMM/Rolling Spot Options computer 35. Such communications preferably include wireless, telephone, touch and voice activation computer. Primary risk transfer involves Spot Link Futures Workstation of the system of the present 35 inventory hedge (defense) through the use of call option (the right to buy the underlying purchase or sale) and put option (the right to buy the underlying purchase or sale). The purchase of a call option allows upside potential investment increase when a market rises, while the sale of a call option allows limited downside investment increase when the market decreases. On the other hand, the purchase of a put option allows potential upside investment increase when a market declines, while the sale of a put option allows limited upside investment increase when a market rises.

Referring to FIG. 2, an example of the process just described is illustrated as follows. The PMM/Rolling Spot Futures computer 33 receives a primary bank order to purchase or sell currency. The PMM/Rolling Spot Futures computer 33 promptly counters the risk associated with the futures purchase or sale by the purchase of a reciprocal amount of options from the PMM/Rolling Spot Options computer 35, thereby producing a synthetic short sale. This action neutralizes the PMM's inventory risk. Therefore, the original inventory action has been canceled. The PMM/ trading systems 16, 18, 20, 22, 24 for use primarily by 55 Rolling Spot Options computer 35 transfers risk by making the appropriate transactions within the options trading crowd through terminals 32, 34, 36. These transactions disperse the risk among a multitude of traders. As shown in FIG. 2, the risk can be dispersed horizontally through time spreads, vertically through volatility spreads or a combination of horizontal and vertical spreads, known as "combos" or

> Secondary risk transfer is distinguished from primary risk transfer in that a bank or other institution does not wish to purchase the underlying currency prior to entering into an options transaction. This secondary process is accomplished as follows. The PMM/Rolling Spot Options computer 35

receives a secondary bank order for an option hedge. The PMM/Rolling Spot Options computer 35 promptly transfers this risk by the purchase or sale of the appropriate amount of futures. The PMM/Rolling Spot Futures computer 33 transfers risk by making the appropriate transactions within 5 the PMM/Rolling Spot Futures Traders 38 and the Currency Futures Traders 40.

A typical example of a primary risk transfer transaction is illustrated as follows. First, the PMM/Rolling Spot Futures computer 33 receives an inventory order of 100 Rolling Spot Currency futures at a hypothetical Deutschmark price of \$0.6500 (DM 1.5385), basis December, which it must purchase. The PMM/Rolling Spot Futures computer 33 promptly transfers this risk by the purchase of the same amount of December \$0.6500 (DM1.5385), put options (the 15 right to sell) and the sale of the same amount of December \$0.6500 (DM 1.5385), call options (the right to buy) producing a synthetic short sale. This action neutralizes the PMM's inventory risk. Therefore, the original inventory action has been canceled. The PMM/Rolling Spot Options 20 its screen for information purposes of computing risk transcomputer 35 transfers risk by making the appropriate transactions within the options trading pit crowd, thereby laying off that risk and dispersing the risk among the multitude.

A typical secondary risk transfer is illustrated as follows. Assume that a bank has previous ownership of 100 Rolling 25 Spot Currency futures and now needs to hedge its own inventory. The bank may purchase the same amount of December \$0.6500 (DM 1.5385), put options and sell the same amount of December \$0.6500 (DM 1.5385), call options, again producing a synthetic short sale. The bank has 30 now transferred or neutralized its risk. The PMM/Rolling Spot Options computer 35 will be able to transfer the risk which it just assumed in the following manner. The first transfer mode would be the inverse of the primary risk transfer. For instance, if the PMM/Rolling Spot Options 35 computer 35 inventories 100 December \$0.6500 (DM 1.5385), calls, it may sell 100 December \$0.6500 (DM 1.5385), put options and the corresponding amount of Rolling Spot Currency futures from the PMM/Rolling Spot Futures computer 33. This will neutralize the PMM/Rolling 40 Spot Options computer 33 risk.

A second mode of risk transfer for the PMM/Rolling Spot Options computer 35 is transfer of risk into the options pit trading crowd. At this point, the risk can be dispersed horizontally through time spreads, vertically through vola- 45 tility spreads or a combination of horizontal and vertical spreads. The ultimate product of its risk transfer product is always the same-enabling the PMM computers 33, 35 to make 24-hour markets in a risk minimum exchange traded environment-something never before accomplished.

Unique to creating an exchange traded forex market by linking the PMM computer 12 (FIG. 1) and Rolling Spot Currencies, is the ability to offer a reliable electronic 24-hour exchange(s) traded market with current bid/offer, offer quotes and size. With this exchange traded market 55 maker function, a 24-hour exchange electronic traded banking market—a forex bank and institutional trading market is now possible. This electronic traded banking market can be accomplished by forming an exchange of non-equity owning banks and other qualified financial institutions 60 which would have electronic linkage to the exchange traded forex markets of the rolling spot and other derivative currencies. These non-equity members preferably would have the ability to execute their transactions at member exchange rates, electronically as any other member of the exchange(s) 65 would have. The major difference between the electronic market and full exchange privilege would be that electronic

market participants would only have the electronic ability to access the exchange trading PMM computer directly and not have physical access to the exchange trading floor. This does not present an obstacle because most banks do not want the cost or responsibility of accessing the exchange floor directly. They simply would like the opportunity to trade competitively and at a very low cost.

FIG. 3 is a block diagram of the PMM /Rolling Spot Currency system of the present invention which illustrates trading using the electronic brokerage and trading network 14 shown in FIG. 1. The electronic brokerage and trading network 14 allows remote terminal trading between financial institutions. Preferably, a remote terminal 42 located at a financial institution receives customer orders and queues them by time received and price. These requests remain in the system until matched or withdrawn. The remote terminal 42 accesses PMM computer 44, preferably via modem, to obtain required bid, offer and quantity markets information. The PMM computer 44 displays last trades and quantity on fer information. The financial institution, via remote terminal 42, can match the bid or offer based on stored customer requests. If a trade is completed to the PMM computer's 44 inventory, the PMM computer 44 will automatically transfer the risk assumed in the trade by transmitting to the PMM Options computer 46 a request to purchase the same amount of put options or sell the same amount of call options, thereby producing a synthetic short sale as described above. A clearing firm 48 receives confirmation of the trade after its screen (not shown) displays printed transaction record and customer accounts are settled. Finally, a clearing system 50 matches and settles the trades.

FIGS. 4 and 5 are flow charts of the processing that occurs inside the PMM/Rolling Spot Futures computer 33 and PMM/Rolling Spot Options computer 35, respectively. In FIG. 4, a host routing routine 41 sends orders to the PMM futures computer 33 in order of time of receipt. The PMM futures computer 33 then decides whether a trade will be executed. If a trade will not be executed, the PMM futures computer 33 queues the bid or offer in order of time of receipt and price and updates the video display to reflect the bid or offer. If a trade will be executed, depending on whether the order is a bid or an offer, the PMM futures computer 33 adds or subtracts the corresponding currency from; its inventory, updates the video display accordingly and transmits to the PMM/Rolling Spot Options computer 35 to transfer the risk associated with the trade.

In FIG. 5, the PMM/Rolling Spot Options computer 35 receives a transmission from the PMM/Rolling Spot Futures computer 33. The PMM Options computer 35 decides whether a trade will be executed. If a trade will not be executed, the PMM computer 35 queues the bid or offer in order of time of receipt and price and updates the video display to reflect the bid or offer. If a trade will be executed, depending on whether the order is a bid or an offer, the PMM Options computer 35 adds or substracts currencies from the PMM inventory and updates the video display (not shown) accordingly. The PMM/Rolling Spot Options computer 35 transfers the risk associated with the trade by making the appropriate transactions within the options trading crowd through terminals 32, 34, 36.

FIGS. 6-8 provide implementation views of the PMM/ Rolling Spot Link Workstation functions of the present invention. FIG. 6 shows a preferred embodiment of the PMM/Rolling Spot Link electronic market order routing system. In FIG. 6, the best inside markets 54, 56, 58, 60, 62 (highest bid and lowest offer) from the various electronic

trading systems 16, 18, 20, 22 and 24 of FIG. 1 are communicated into the display field of screen 52. This information is stored by the PMM/Rolling Spot Link Workstation 33, 35 to produce the best overall inside market 64. This information is also transferred to the PMM/Rolling 5 Spot Link Automated Brokerage Screen 68 as shown in FIG.

In the current example, only one customer order is featured because all other customer orders are away from the market (above and below the market). The featured market 10 is a sale of 35 March Deutschmark Rolling Spot at a price of DM 1.5385, (\$0.6500). The screen 68 shown in FIG. 7 features a touch activated order fill device 70 which automatically divides the quantity of the trade among participating traders.

FIG. 8 shows a preferred embodiment of the PMM/ Rolling Spot Link Workstation Trading and Risk Management Screen 72. In the current example, the PMM computer 12 (FIG. 1) has assumed the responsibility to make liquid markets by increasing the bid. The original bid was DM 20 1.5384, (\$0.6500) as displayed in the PMM Market Quote Screen 74. However, the PMM computer 12 took the customer order one pip (one unit of currency movement) higher to facilitate the trade. Because there was also local participation at the same price, the PMM computer 12 received its mandated allowance for this trade of between 30% and 40% in accordance with the CME's proposed rules as previously described herein.

The Inventory (Change) Screen 76 and Inventory Delta Screen 78 allow the inventory position and risk to be known at all times. The Inventory (Change) screen 76 can be altered 30 preferably by the use of a pointing device (not shown) and keyboard (not shown). The Inventory Delta Screen 78 has a color graphic feature which enables the PMM computer 12 to quickly understand the inventory risk position.

The PMM Risk Transfer Screen 80 is connected to the 35 most commonly used floor brokers in the "options crowd" for PMM risk transfer at rapid rates. In the current example, the PMM computer 12 wishes to execute a "Conversion" (perfect hedge) to eliminate market risk and take advantage of time premium decay. (The amount an option would 40 command if it were exercised immediately is termed its intrinsic value. However, options always trade above intrinsic value until the time of exercise at which time the option will trade at only its intrinsic value. The difference between the value of the option above intrinsic value and that value 45 at exercise is known as time decay.) The trade is initiated preferably using a pointing device (not shown) and keyboard (not shown). This sets the amount of the specific product to purchase or sell. The trade button 82 is activated and the trade request is set to the PMM/Rolling Spot Options Workstation 33, 35 for execution. This action minimizes the PMM computer's 12 risk, heretofore, unavailable to any interbank trader.

FIGS. 9 and 10 show preferred embodiments of the PMM/Rolling Spot Link Options Workstation Trading and Risk Management Screen 72 and the Automated Brokerage Screen 68, respectively. These screens 68, 72 are similar to the screens discussed above with the exception that they convey options information and are used for the PMM Options computer 35 rather than the PMM Futures computer

The PMM/Rolling Spot System of the present invention provides several advantages. The system provides exchange floor traders, brokers and customers with an ongoing market for trade layoff, both profitable and otherwise. Traders, either in futures and options via a spread, or in the Rolling 65 communications link to rolling spot future trade systems. Spot, will be able to stop unprofitable positions based on the knowledge that a sized bid at or below, or sized offer at or

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above, their trade exists. This element of the PMM/Rolling Spot Link will increase trader willingness to increase trading activity-trade and take larger positions-even during market cycles when currency volatility may be high.

Increased "floor trader activity" will encourage growing volume and open interest in currency futures. It will also increase the open interest distribution in the currency products. Unlike other successful futures products, currency products do not produce significant open interest beyond the first expiration month. Many forex market transactions are now occurring at durations of less than fourteen days. A PMM/Rolling Spot Currency System will exploit this vast marketing terrain where present products do not and provide a needed public service. Since significant forex activity takes place between the current date and the first fourteen days, exchange open interest will accumulate in this area and give exchange traded currency products a wider subsequent participation and that participation will reduce transaction costs of all currency trades.

A unique feature of the PMM/Rolling Spot Currency System is the ability to have a heretofore over-the-counter unregulated trading concept, regulated within the rules of an exchange(s) and the various domestic regulatory agencies governing those exchanges, such as the Securities and Exchange Commission and the Commodities Futures Trading Commission. This is a powerful concept because regulation will add safety to the world currency markets. It is to the advantage of the world currency trading community, both cost-wise and time-wise, to utilize the existing exchange regulatory framework rather than create a new set of regulations in the over-the-counter forex market.

Also, unique to this invention, is its ability to mandate that the Principal Market Maker computer maintain business contacts throughout the trading community. This direct marketing approach by a recognizable market maker that is required to provide constant 24-hour international currency trading, is in direct contrast to the generally accepted exchange(s) practices of passive exchange generated marketing and will provide the trading community with much needed exchange contacts.

As those skilled in the art will appreciate, the system described herein should accommodate a plurality of markets such as, for example, interest rate, agricultural commodities, etc. The system should also accommodate a plurality of information vendors such as Dow-Jones Telerate. Thus, it is to be understood that the foregoing detailed description is illustrative rather than limiting and it is the following claims, including all equivalents, which are intended to define the scope of the invention.

What is claimed is:

- 1. A principal market maker/rolling spot system for trad-50 ing currency futures, comprising:
 - a principal market maker futures computer operative to receive and automatically execute primary currency futures purchase and sale trades and orders and maintain a currency futures bid and offer market;
 - a principal market maker options computer operative to receive and automatically execute secondary currency futures purchase and sale trade and orders and maintain a currency options bid and offer market; and a bi-directional communications link coupled between the futures and options computers, the bi-directional communications link to facilitate intermarket trading to manage risk taken in a position resulting from a trade in either market.
 - 2. The link defined in claim 1, further comprising a second
 - 3. The link defined in claim 1, further comprising a second communications link to currency futures trade systems.

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4. The link defined in claim 1, further comprising a second communications link to allow vertical, horizontal and combination spread options trading

5. The link defined in claim 1, wherein the bi-directional communications link comprises a wireless communication 5

system.

6. The link defined in claim 1, wherein the bi-directional communications link comprises a telephone.

- 7. The link defined in claim 1, wherein the bi-directional communications link comprises a touch activation computer.
- 8. The link defined in claim 1, wherein the bi-directional communications link comprises a voice activation computer.
- 9. A principal market maker system for trading commodities, comprising:
 - a principal market maker futures computer operative to receive and automatically execute primary commodity purchase and sale trades and orders and maintain a commodity futures bid and offer market;
 - a principal market maker options computer operative to receive and automatically execute secondary commodity purchase and sale trades and orders and maintain a 20 commodity options bid and offer market; and
 - a bi-directional communications link coupled between the futures and options computers, the bi-directional communications link to facilitate intermarket trading to manage risk taken in a position resulting from a trade 25 in either market.
- 10. An electronic market for trading commodities, com
 - a communications interface operative to transmit commodity bids and offers from at least one financial 30 institution,
 - a principal market maker computer coupled to the communications interface, the principal market maker computer operative to receive the commodity bids and offers and execute trades to maintain a market for 35 commodity trades; and

a principal market maker options computer.

- 11. The electronic market defined in claim 10, further comprising a bi-directional communications link coupled between the options computer and principal market maker 40 currency futures, comprising the steps of;
- 12. The electronic market defined in claim 10, wherein the link comprises a modem.
- 13. The electronic market defined in claim 10, wherein the link comprises a telephone.
- 14. The electronic market defined in claim 10, wherein the link comprises a voice activation computer.
- 15. The electronic market defined in claim 10, wherein the link comprises a touch screen display.
- 16. The electronic market defined in claim 10, wherein the link comprises a keyboard.
- 17. A computerized method having a principal market maker computer for maintaining a market for publicly traded currency futures, comprising the steps of:
 - receiving primary currency futures purchase and sale trades and orders, the primary currency futures pur- 55 chase and sale trade and order indicative of whether a currency future is to be bought or sold;
 - receiving secondary currency futures purchase and sale trades and orders, the secondary currency futures purchase and sale trades and orders, indicative of a cur- 60 rency futures options hedge;
 - automatically matching and executing primary currency futures purchase and sale trades and orders to maintain a currency futures market;
 - automatically matching and executing secondary cur- 65 tal and combination spread options trading. rency futures purchase and sale trades and orders to maintain a currency futures options market; and

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providing a communications link to allow intermarket futures and options trading to manage risk taken in a position resulting from a trade in either market.

18. The method of claim 17 wherein the communications link is coupled to a rolling spot future trade system.

19. The method of claim 17 wherein the communications link is coupled to a currency futures trade system.

20. The method of claim 17 wherein the communications link allows vertical, horizontal and combination spread options trading.

21. A computerized method having a principal market maker computer for maintaining a market for publicly traded currency futures, comprising the steps of:

receiving primary currency futures purchase and sale trades and orders, the primary currency futures purchase and sale trade and order indicative of whether a currency future is to be bought and sold;

receiving secondary currency futures purchase and sale trades and orders, the secondary currency futures purchase and sale and order indicative of an outright option purchase and sale;

automatically matching and executing the primary currency futures purchase and sale trade and order to maintain a currency futures market;

automatically matching and executing the secondary currency futures purchase and sale trade and order to maintain a currency futures options market; and

providing intermarket futures and options trading to manage risk taken in a position resulting from a trade in either market.

22. The method of claim 21 further comprising the step of providing a communications link to rolling spot future trade systems.

23. The method of claim 21 further comprising the step of providing a communications link to currency futures trade systems.

24. The method of claim 21 further comprising the step of providing a communications link to allow vertical, horizontal and combination spread options trading.

25. A computerized method having a principal market maker computer for maintaining a market for publicly trade

receiving primary currency futures purchase and sale trades and orders, the primary currency futures purchase and sale trade and order indicative of whether a currency future is to be bought or sold;

receiving secondary currency futures purchase and sale trade and orders, the secondary currency futures purchase and sale trade and order indicative of an outright option purchase and sale;

automatically matching and executing primary currency futures purchase and sale trades and orders to maintain a currency futures market;

automatically matching and executing secondary currency futures purchase and sale trades and orders to maintain a currency futures market; and

providing intermarket futures and options trading to manage risk taken in a position resulting from a trade in either market.

26. The method of claim 25 further comprising the step of providing a communications link to rolling spot future trade systems.

27. The method of claim 25 further comprising the step of providing a communications link to currency futures trade systems.

28. The method of claim 25 further comprising the step of providing a communications link to allow vertical, horizon-

Case: 1:04-cv-03238 Document #: 1 Filed: 05/06/04 Page 28 of 30 PageID #:48

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. :

5,963,923

DATED

October 5, 1999

INVENTOR(S):

Howard B. Garber

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In claim 25, line 2, delete "trade" and substitute --traded-- in its place.

Signed and Sealed this

Twenty-second Day of May, 2001

Micholas P. Sodici

Attest:

NICHOLAS P. GODICI

Attesting Officer

Acting Director of the United States Patent and Trademark Office



UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF ILLINOIS

Civil Cover Sheet

This automated JS-44 conforms generally to the manual JS-44 approved by the Judicial Conference of the United States in September 1974. The data is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. The information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is authorized for use only in the Northern District of Illinois.

Plaintiff(s): Garber, Howard, B.

County of Residence: Cook

Defendant(s): Chicago Mercantile Exchange, Chicago Board of Trade, Chicago Board Options Exchange, & One Chicago, LLC

County of Residence:

Plaintiff's Atty: Lee Grossman, Jeffrey Drake,

Eric Martin

Grossman & Flight, LLC

20 N. Wacker, #4220, Chicago,

IL 60606 3125801020 Defendant's Atty:

JUDGE PLUNKETT 4C 3238

MACISTRATE JUDGE BOBRICK

II. Basis of Jurisdiction:

3. Federal Question (U.S. not a party)

III. Citizenship of Principal Parties (Diversity Cases Only)

> Plaintiff:-N/A Defendant:-N/A

IV. Origin:

1. Original Proceeding

V. Nature of Suit:

830 Patent

VI.Cause of Action:

35 USC Sec. 271 (a), (b), and/or (c)

VII. Requested in Complaint

Class Action: No Dollar Demand: Jury Demand: Yes

VIII. This case IS NOT a refiling of a previously dismissed case.

Signature:

UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF ILLINOIS

In the Matter of

EASTERN DIVISION

JUDGE PLUNKETT

Howard B. Garber

V.

Chicago Mercantile Exchange, Chicago Board of Trade, MAY 0 7 2004





APPEARANCES ARE HEREBY FILED BY THE UNDERSIGNED AS ATTORNEY(S) FOR: MARKSTRATE JUDGE BORRICK

Howard B. Garber

/ (A)					(B)					
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Lee F. Grossman				• •	Eric P. Martin					_
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E-MAIL ADDRESS 1grossman@gros	smai	ıfligh	nt.co	m	E-MAIL ADDRESS emartin@grossm	nanflig	ght.co	om		
identification number (see item 4 on reverse) 6192977					IDENTIFICATION NUMBER (SEE ITEM 4 ON REVERSE) 6275448					
MEMBER OF TRIAL BAR?	YES	\square	NO		MEMBER OF TRIAL BAR?	YES		NO	\square	
TRIAL ATTORNEY?	YES	Ø	NO		TRIAL ATTORNEY?	YES		NO	Ø	
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Jeffrey M. Drake				 	NAME .	<u></u>	35			
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STREET ADDRESS 20 N. Wacker Dr	rive,	Suite	422	0	STREET ADDRESS	97.7.C	0_	رات رات		
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idrake@grossma	ınflig	ht.co	om		E-MAIL ADDRESS	}	 =			_
IDENTIFICATION NUMBER (SEE ITEM 4 ON REVERSE) 6281315					IDENTIFICATION NUMBER (SEE ITEM 4 ON REVERSE)				<u></u>	
MEMBER OF TRIAL BAR?	YES		NO	Ø	MEMBER OF TRIAL BAR?	YES		NO		
TRIAL ATTORNEY?	YES		NO	Ø	TRIAL ATTORNEY?	YES		NO		
DESIGNATED AS LOCAL COUNSEL?	YES		NO	\square	DESIGNATED AS LOCAL COUNSEL?	YES		NO		-7